

Response

The Examiner objected to the disclosure for informalities relating to inconsistency with reference characters – namely, reference character 18. The specification has been amended in accordance with the amendments above to correct these informalities. The reference character “18” now consistently refers to a “flat narrow surface.” Accordingly, Applicant respectfully requests that the objection be withdrawn.

The claims have been amended in accordance with the amendments above. The amendments are fully supported by the specification, claims, and figures as originally filed. No new matter is believed or intended to be involved.

Claims 7 and 11 have been objected to for reciting a “plate” without sufficient antecedent basis. Applicant respectfully directs the Examiner’s attention to page 4, line 13 of the specification, where it is clearly and unequivocally stated that “A plate can be attached to the first surface, . . . ” (p. 4, l. 13). Applicant submits that this clear statement in the specification provides sufficient antecedent basis for reciting the same limitation in nearly verbatim language in claims 7 and 11. Accordingly, Applicant respectfully requests that the objection be withdrawn.

Claim 11 has also been objected to for reciting an “upper surface,” which the Examiner proposes should read “second surface.” Applicant notes that claim 11 depends from claim 8. Neither claim 8 nor claim 11 recites a “second surface.” Accordingly, Applicant respectfully declines the invitation set forth in the Office Action to adopt the proposed language. In addition, Applicant respectfully directs the Examiner’s attention to line 2 of claim 8, which clearly recites “an upper surface.” It is precisely this “upper surface” in claim 8 that is referenced in the recitation of “the upper surface” in claim 11, which, again, depends from claim 8. In light of the foregoing, Applicant submits that the objection is improper, and respectfully requests that the objection be withdrawn.

Claims 1-3 and 5-7 have been rejected under 35 U.S.C. § 103(a) as being obvious over Bean (U.S. Patent No. 5,048,823) in view of Weck et al. (U.S. Patent No. 6,575,885). Applicant respectfully submits that the Examiner has failed to establish a prima facie case of obviousness under MPEP 2143.

To establish prima facie obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. (MPEP 2143.03). Applicant appreciates the concession from the Examiner that Bean fails to teach a second surface being generally hemi-ellipsoidal. However, the Examiner erroneously asserts that "Week [sic] et al. shows a second surface generally in a hemisphere shape and capable of being elliptically shaped." Office Action dated 04/27/04, p. 4 (citing col. 4, ll 20-22, 34-35 of Weck et al.). Applicant respectfully submits that the Examiner misconstrues the teachings of Weck et al.; and further fails to appreciate the differences between an ellipse and an ellipsoid, and the differences between a hemisphere and an ellipsoid.

The passages in Weck et al. cited in the Office Action disclose an elliptical "support platform 10" and a hemispherical "sheet like member 12," respectively. Those of ordinary skill in the art would immediately recognize that Weck et al. is discussing two different surfaces. First, Weck et al. assigned separate item numbers to each of these elements – "10" to the platform and "12" to the sheet-like member. Second, Weck et al. discloses the attachment of these otherwise separate elements, which would not make sense if Weck et al. were referring to the same element, albeit by two different names and item numbers. (See Col. 4, ll. 24-25, which states, "The edge of sheet-like member 12 is attached with an airtight seal to platform 10 . . ."). Accordingly, even if Weck et al. disclosed the platform, which would correspond to the "first surface" recited in present claim 1, as elliptical, Weck et al. does not disclose the "sheet-like member," which would most closely correspond to the second surface recited in present claim 1, as generally hemi-ellipsoidal.

Applicant respectfully submits that the disclosure of an elliptical platform does not constitute a disclosure of a generally hemi-ellipsoidal second surface as claimed.

Those of ordinary skill in the art would immediately recognize the differences between an ellipse as disclosed and an hemi-ellipsoid as claimed. An ellipse is a two-dimensional shape – which would be suited for a two dimensional object like the platform disclosed by Weck et al. By contrast, a hemi-ellipsoid is a three-dimensional shape – which would be suited for a three dimensional object. Thus, Weck et al.'s disclosure of an elliptically-shaped platform fails to disclose, teach, or suggest a hemi-ellipsoidal shape. The “elliptical” disclosure of Weck et al. is limited to an element of the apparatus of Weck et al. (i.e. the platform, which would more closely correspond with the *first* surface of claim 1) that is quite different from the hemi-ellipsoidal element of the claimed apparatus (i.e. the *second* surface).

Similarly, Applicant respectfully submits that the disclosure of a hemispherical sheet-like member does not constitute a disclosure of a hemi-ellipsoidal second surface as claimed. Those of ordinary skill in the art would immediately recognize the differences between a hemisphere as disclosed and a heni-ellipsoid as claimed. A hemisphere is defined by a single radius, whereas a hemi-ellipsoid is defined by more than one radius. Thus, Weck et al.'s disclosure of a hemispherical shape, fails to disclose, teach, or suggest a hemi-ellipsoidal shape. Additional significance of this distinction will be discussed below.

To the extent that Weck et al. even remotely suggests the bottom surface of its apparatus having any shape other than hemispherical, such suggestion is limited to the apparatus being under distention. (See, e.g., Col. 3, ll. 23-24, discussing Figure 2 as showing “various levels of distention”; Col. 4, ll. 37-39, stating that “under normal use, and when loaded, the sheet-like member 12 will have a profile that is more complex than a hemisphere.”). By contrast, the present claim 1 recites the second surface as being hemi-ellipsoidal when the apparatus is not in use. This is aptly and inherently illustrated in the Figures and specification. For instance, compare Figs. 1 through 4, which show the apparatus when not in use, to Figs. 5-12, which show the apparatus in use. While Weck et al. may show a second surface being a non-hemispherical when

the apparatus is in use (i.e. under distention), Weck et al. does not show a second surface being generally hemi-ellipsoidal when the apparatus is not in use.

In addition, the Examiner questionably cites the case of In re Dailey, 357 F.3d 669 (C.C.P.A. 1966), for the proposition that “a change in the shape of a prior art device is a design consideration within the skill of the art.” Office Action, p. 4. Applicant respectfully submits that the Examiner overstates the holding of In re Dailey, and fails to appreciate its inapplicability to the present case. Contrary to the suggestion in the Office Action, In re Dailey does not sweepingly proclaim a *per se* rule that a change in the shape of a device simply can not suffice to overcome obviousness arguments. A reading of that case reveals that the applicants had failed to articulate any convincing reasons as to why their particular configuration was significant. See 357 F.3d at 672-673. By contrast, the present specification itself discusses significant advantages of a hemi-ellipsoidal surface as claimed over a hemispherical surface, such as the hemispherical surface taught by Weck et al. (e.g., compare p. 2, ll. 6-14 (discussing the shortcomings of hemispherical surfaces having a constant radius in all directions); to p. 3, ll. 20-23, and p. 9, ll. 5-11 (discussing significant advantages of hemi-ellipsoidal surfaces as providing a radius which varies with direction)). In light of the foregoing, the differences between the hemi-ellipsoidal surface claimed and the hemispherical surface taught by Weck et al. are quite significant. Because of this, In re Dailey is inapplicable, and the distinction – which was neither taught, suggested, nor motivated by the references – provides a sufficient basis for overcoming the obviousness rejection.

Another requirement for establishing *prima facie* obviousness of a claimed invention is that there must be some suggestion or motivation to modify or combine reference teachings. (MPEP 2143.01). Applicant respectfully submits that, even if Bean and Weck et al. taught or suggested all of the present claim limitations, which they do not, the Office Action has failed to establish a suggestion or motivation to modify or combine those teachings. Indeed, as previously stated, in addition to failing to disclose a hemi-ellipsoidal surface, the references do not even appreciate the therapeutic and other advantages provided by a hemi-ellipsoidal surface as claimed in claim 1 (e.g.,

range of motion having a radius of curvature that varies with the direction of motion). In failing to contemplate these advantages over the prior art, the references fail to appreciate the shortcomings of the prior art. Accordingly, by not recognizing these shortcomings, the references fail to motivate the overcoming of such shortcomings, such as by obtaining the advantages of the present invention as claimed.

In light of at least the foregoing, Applicant respectfully requests that the obviousness rejection of claim 1 be withdrawn.

Claim 8 has been rejected under 35 U.S.C. § 102(b) as being anticipated by Bean. Notwithstanding the merits of the rejection, Applicant notes that claim 8 has been amended to merely clarify that the convex lower surface further comprises a flat area allowing the apparatus to remain stationary with the upper surface oriented upward when the apparatus is not in use. Without conceding that the balance of the limitations of claim 8 are taught by Bean, Applicant submits that Bean fails to disclose the flat area on the lower surface as claimed. However, Applicant notes that the Examiner appears to believe otherwise, as the Office Action refers to an “examiner annotation” to Figure 2 of Bean when discussing a similar “flat area” limitation in claim 5.

With respect to Bean’s failure to teach the recited flat area on the lower surface, Applicant first notes that, on the copy of Bean provided with the Office Action, no Examiner annotation referencing a flat surface in Figure 2 was apparent. Second, the only flat area that the Applicant can perceive in Figure 2 is on the top of the Bean device. Applicant notes that the flat area recited in claim 8 is recited as being part of the lower surface, not the top surface. Applicant further notes that all of the figures in Bean show the bottom surface as having at least some finite curvature. (Note, in particular, Figure 4 of Bean). In other words, Bean does not show any area on the bottom surface as being “flat” – as one of ordinary skill in the art would understand the term “flat” (i.e. no curvature or of infinite radius of curvature). Similarly, the specification of Bean fails to disclose the bottom surface having a flat area, let alone a flat area allowing the apparatus to remain stationary with the upper surface oriented upward when the

apparatus is not in use. In short, Bean fails to disclose the flat area recited in claim 8. Accordingly, Applicant respectfully requests that the novelty rejection of claim 8 be withdrawn.

Claim 12 has been rejected under 35 U.S.C. § 103(a) as being obvious over Bean in view of Weck et al. and Silverman (U.S. Patent No. 3,584,402). Applicant hereby incorporates the arguments that were made with respect to claim 1, above. Again, Weck et al. neither remotely teaches, suggests, nor motivates a hemi-ellipsoidal surface. Similarly, and as conceded by the Examiner, Bean suffers from the same defect. The disclosure of Silverman does not make up for the deficiencies of Weck et al. and Bean. Accordingly, Applicant respectfully requests that the obviousness rejection of claim 12 be withdrawn.

Claims 15, 17, and 19-20 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Weck et al. With respect to claims 15 and 20, Applicant hereby incorporates the arguments that were made with respect to claim 1, above. Again, Weck et al. neither remotely teaches, suggests, nor motivates a hemi-ellipsoidal surface. Accordingly, Applicant respectfully requests that the novelty rejections be withdrawn.

While Applicant has noted some of the significant differences between the pending claims and the cited references, it should be noted that other claimed features are not taught or suggested in the cited references. Furthermore, the dependent claims add other limitations that further distinguish over the cited references. Applicant reserves all rights and arguments with respect to the distinctions and claimed features not expressly discussed heretofore.

To the extent that the amendments constitute a narrowing of the claims, such narrowing of the claims should not be construed as an admission as to the merits of the prior rejections. Indeed, Applicant traverses the rejections and preserves all rights and arguments.

Based on the foregoing all pending claims are in a condition for allowance. Accordingly, Applicant submits that all pending claims overcome the rejections presented in the Office Action, and respectfully requests reconsideration and an early notice of allowance.

Respectfully Submitted,



Edwin R. Acheson, Jr. (Reg. No. 31,808)
Frost Brown Todd LLC
2500 PNC Center
201 East Fifth Street
Cincinnati, Ohio 45202-4182
513-651-6708 (direct)
513-651-6981 (fax)

Certificate of Mailing

The undersigned certifies that this correspondence was deposited with the U.S. Postal Service with sufficient postage as first class mail and addressed to "Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450," on October 27, 2004.

